

An Email Alert System for Internal Medicine Physicians

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Abstract

This study evaluated the effectiveness of an email-based alerting system for internal medicine house staff and faculty in geographically dispersed locales. Responses to a test alert email message were used to quantify the rapidity by which physicians read the message, and to define subgroups in which this communication modality proved most successful. The results of this study are being used to improve our preparedness for emergencies.

Background

Email is increasingly used by physicians and other health care professionals for communication with colleagues, patients, and for personal use.¹ The AMA's "Study on Physicians' Use of the World Wide Web" showed that two-thirds of online physicians access the Web daily and that the percentage of older physicians using the Web is increasing.² As we learned on September 11th 2001, when telephone and paging systems failed at our medical center, email and wireless devices proved reliable. These factors make email attractive for providing clinical and organizational alerts to faculty and house staff. The Department of Medicine is in the process of implementing an email alert system and increasing the use of email for routine communication by faculty and staff. This project aimed to investigate the effectiveness of such a system for early emergent communications

Methods

Currently, 597 (70%) of 853 Internal Medicine faculty are on our faculty email distribution list. All 182 Internal Medicine house staff are on the training program distribution list. These faculty and house staff are at different locations and practice settings throughout our three main teaching hospitals and offices in Manhattan. A plain-text message was sent to all faculty and house staff on their respective email lists. The emails, signed by the Chairman of the Department of Medicine, asked participants to reply immediately to confirm receipt. The replies were used as surrogate markers to define whether and when the respondent read the email alert. For each reply received, the following variables were recorded: time of response receipt, use of a non-hospital issued email address in response, level of training, gender, and division affiliations.

Results

In total, 388 individuals responded; response rates at the end of one week were 48.2% for faculty and 54.9% for house staff; 80.9% of the faculty responses

and 72.0% of the house staff responses were received within 12 hours of sending the alert. The median time to respond was 2.0 and 7.0 hrs, respectively in faculty and house staff (Figure 1). There were no significant differences in response rate by gender, professional rank, or location. Both type of email account (Table 1) and practice type among faculty (Table 2) affected time to response and response rate, respectively.

Figure 1. Percent of total responses according to hour of response

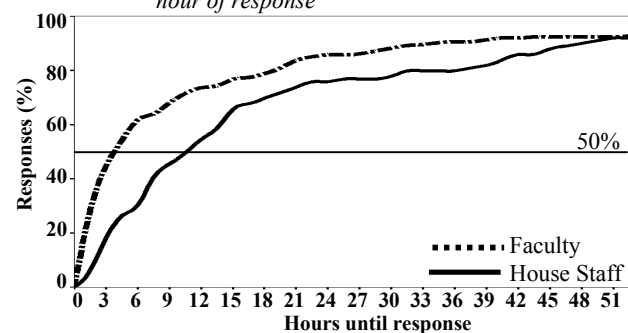


Table 1. Time to response (≤ 12 h) according to use of hospital-issued or personal email accounts.

	Hospital email account	Personal email account	
Faculty	(n=134)	(n=99)	
Mean Time to response (hrs)	1.94 \pm 2.73	3.11 \pm 3.49	p=0.006
House Staff	(n=48)	(n=24)	
Mean Time to response (hrs)	5.06 \pm 3.39	3.42 \pm 3.34	p=0.06

Table 2. Response rates according to faculty practice type.

Practice type:	n	Response Rate (%)	Odds Ratio (95% CI)
Non-procedural	352	43.0	1.00
Procedural	199	54.8	1.68 (1.19,2.38)
Research	14	95.0	17.74 (3.92,80.29)
Other	32	50.0	0.73 (0.35,1.51)

Conclusions

These data indicate that our email alert system is an effective means of communication with a diverse group of faculty and house staff; high response rates in a non-emergent setting suggest its utility in an emergency.

References

1. The Harris Poll. Computing in the Physicians' Practice. Rochester: Harris Interactive; 2001.
2. American Medical Association. 2002 AMA Study on Physicians' Use of the World Wide Web. Chicago: American Medical Association; 2002.